DOCUMENT RESUME

ED 137 941 EA 009 419

AUTHOR Kelly, Dennis G.
TITLE The Effects of Curriculum Organizational Structure on Curriculum Innovation.
PUB DATE Apr 77
NOTE 20p.; Paper presented at the Annual Meeting of the American Educational Research Association (New York, N.Y., April 4-8, 1977)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Administrator Attitudes; Curriculum; *Curriculum Development; Decision Making; *Educational Innovation; *Organization; Principals; *Role Perception; Senior High Schools; Statistical Analysis; Tables (Data); *Teacher Attitudes; Teachers

ABSTRACT

The purpose of this project was to study the relationship of certain organizational variables (standardization, formalization, and centralization) to curriculum innovation. It was hypothesized that increasing the formalization of curriculum guidelines and the standardization of curriculum procedures would lead to a decrease in role ambiguity and thus to higher levels of curriculum innovation. The study focused on 30 high schools in the metropolitan Detroit area. Approximately 600 teachers and 30 principals were surveyed. The results indicate that formalization and standardization are significantly related to higher levels of curriculum innovation. (Author)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED137941

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

SCOPE OF INTEREST NOTICE

The ERIC Facility has assigned this document for processing to: EA SP

In our judgement, this document is also of interest to the clearinghouses noted to the right. Indexing should reflect their special points of view.

The Effects of Curriculum Organizational Structure on Curriculum Innovation

presented by

Dennis G. Kelly
The University of Michigan
Homewood-Flossmoor School District #233
Flossmoor, Illinois 60422

EA 009 419

Background of the Research Study

Curriculum innovation and improvement, a topic of great concern during the 1960's, has re-emerged as a critical issue for research given the growth and maturation of the teacher unionization movement. The emerging dual control structures of schools, as predicted by Hansen (1972), has become reality and its implications for various aspects of school organization, including curriculum development, are great. In Michigan, for example, control over curriculum decision-making is frequently an issue in negotiations between school districts and teacher associations and it is possible that this will become a bargaining issue throughout the nation.[1] Teachers' contracts often include provisions for "curriculum committees" and teachers' participation on these committees. These are purportedly structured to increase teachers' influence over curriculum decisions. While many of these committees have been established, initiated by both administrators and/or teachers, little is known about their effects on curriculum innovation. These committees imply formalization and standardization of the curriculum change process. There is some uncertainty among districts' leaders, teachers, and curriculum specialists regarding the effectiveness of the structuring of these committees. Existing research relevant to this issue offers contradictory conclusions. Studies conducted within educational systems suggest that formalization and standardization is associated with high teacher control. On the other hand, research on social change indicates these variables inhibit innovation, particularly in the early stages of the change process. This research

---

[1]A study of school districts in the Metropolitan Detroit area indicated that over 60% included provisions in negotiated contracts for curriculum development.

study, therefore, was designed to investigate the relationship between organizational structure and the adoption and implementation of curriculum innovations. The central hypothesis tested focused on the effects of organizational variables (formalization and standardization) on curriculum innovation. It was predicted that the increased formalization of curriculum guidelines and the standardization of curriculum procedures would have positive effects on curriculum innovation by increasing members' awareness of the curriculum decision-making process and thereby decreasing role ambiguity and conflicts.

An added interest to this study was an investigation of the role expectations of administrators and teachers in the curriculum innovation process and the relative influence of these groups on curriculum decision-making.

Theoretical Framework

Much of the existing research on change in educational systems has been marked by oversimplifications and the reliance on singular theoretical approaches. Studies have tended to be based on one of two theoretical approaches: "macro" theory which uses social structure as a starting point for analyzing change and "micro" theory which places the roots of change at the individual level. Systems theories of organizations suggest, however, that a bridging of these two approaches is necessary for a more complete understanding of social change (Zaltman, 1974; Katz and Kahn, 1966). This research study was based on a model which integrates the two traditional approaches to curriculum innovation; the curriculum decision-making structure exhibited by schools were considered at the organizational level and the roles and attitudes of members, which are in part a function of that structure, were considered at the individual level of analysis.

Hypotheses

The data collected in this research study permitted for the testing of the following hypotheses:

1. The formalization of curriculum guidelines will decrease role ambiguity and conflict and lead to higher rates of curriculum innovation.
2. The standardization of curriculum procedures will decrease role ambiguity and conflict and lead to higher rates of curriculum innovation.

The data also allowed for the investigation of the following questions:

1. Do administrators and teachers perceive any significant differences in the actual and ideal influence of various groups in the curriculum decision-making process?
2. Do administrators' and teachers' perceptions of each others' roles and of general curriculum concerns in schools differ significantly?

Methodology of the Study

A preliminary telephone survey of administrators in 120 school districts in Metropolitan Detroit was conducted. The results of the survey suggested that: (1) administrators were spending less time on curriculum, (2) there was confusion over roles in the curriculum process, and (3) a variety of organizational structures were being used for handling curriculum and those schools using more formalized and centralized structures were reporting more successful experiences implementing curriculum.

Data gathered from the initial telephone survey was used for selecting possible high schools for the study. The comments of administrators on the structures their schools used for curriculum were used as a determiner for grouping schools. Schools were placed into two groups: (1) those using formalized structures for curriculum, and (2) those using less formalized structures for curriculum. After the categorizing of schools, fifteen schools were randomly selected from each group.

The first contact with local school districts was made through use of a written inquiry to the local school district's superintendent. All thirty of the superintendents contacted agreed to participate in the study.

After acceptance into the thirty school districts, the principals of the high schools were contacted by letter and later by telephone.

Semi-structured telephone interviews were conducted with principals and at least two teachers in each school. The interviews consisted of a series of twenty-four questions covering three areas: (1) the organizational structure used for curriculum, (2) the respondent's role in curriculum development, and (3) recent attempts to innovate at the school level.

A paper and pencil questionnaire was developed to survey principal and teacher attitudes toward curriculum innovation. Many items for the questionnaire were written and pilot tested in a Survey Research graduate class at the University of Michigan; other items were utilized from a survey of community colleges conducted through the Institute for Social Research; and, several other items grew out of lengthy discussions with local area curriculum personnel. The final survey instrument consisted of 103 items on a five-point Likert-type scale. An administrator and a teacher form of the questionnaire were written so as to allow for the differing roles of the participants in the curriculum process.

Arrangements were made with principals for the researcher to administer questionnaires to teachers during faculty meetings or in faculty lounges. Twenty teachers were randomly selected from each staff roster and then asked to complete the survey questionnaire. Approximately 600 teachers and 30 principals were included in the survey. Of the 630 questionnaires distributed, 563 were returned in a complete and usable form for an 89% response rate.

While the researcher was distributing questionnaires, he also spent time observing in schools with the intention of gaining further insights into the organizational structure of the schools. Any formal documents published by the school district concerning curriculum were examined at this time. Typically, these documents came from Boards of Education, the administration, curriculum committees, and negotiated teacher contracts.

This study incorporates a matched design of thirty high schools. The sample was taken randomly from 111 school districts in a six-county area surrounding Metropolitan Detroit. One group consisting of fifteen schools with formal structures for handling curriculum was matched against another group of fifteen schools with informal structures for curriculum. Typically formal structures for curriculum would be those schools which have permanent curriculum committees meeting on a regular basis and publishing their results; informal structures would be schools where there are no curriculum committees or ad hoc committees formed for temporary problem-solving.

The design focuses on the structure schools use for handling curriculum as the independent variable; the dependent variable was the rate and success of curriculum innovation in schools as perceived by administrators and teachers.

Results of the Study

Formalization. Formalization was defined as the degree to which an organization defines its rules and policies through written communication. The unit of analysis for questions on organizational variables (formalization and standardization) was the school unit (N=30). The formalization variable was constructed from the following questions:

1. The curriculum policy of my school is clearly defined and documented by the Board of Education.
2. Curriculum procedures and practices are clearly spelled out in my school in curriculum guides or teacher handbooks.

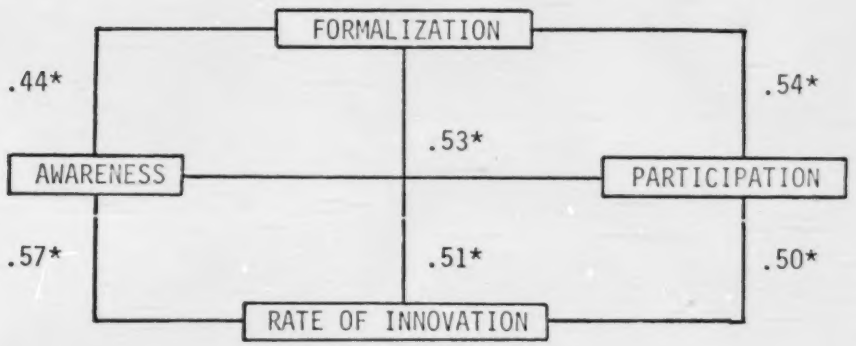
These questions were answered on a five-point scale ranging from "strongly disagree" to "strongly agree". The hypothesis to be tested was:

> The formalization of curriculum guidelines will decrease role ambiguity and conflict and lead to higher rates of curriculum innovation.

The hypothesis was supported by the findings of this study. The correlation between formalization and role clarity was .69 and it was significant at the .01 level. Figure 1 shows graphically the relationship among some of the variables related to formalization. There are significant correlations between formalization and participation (.54*) and formalization and awareness (.44*). The formalization of curriculum guidelines is also significantly related to the rate of innovation (.51*).

Figure 1

Correlations between Formalization, Awareness of Curriculum Processes, Participation and Rate of Innovation (N=30)



*Significant at .01 level

Multiple regressions were also conducted on the four variables in Figure 1 (formalization, awareness, participation, and rate of innovation.) With awareness and participation partialed out, the residual correlation between formalization and rate of innovation was .21. This indicates that when the intervening factors of awareness and participation are excluded, the relationship between formalization and rate of innovation is not significant.

In a related study, the responses of matched groups of schools were compared along several variables. The results in Table 1 are apparent. Schools identified as being formalized reported significantly higher rates of awareness, teacher autonomy, satisfaction with curriculum, communication, and clarity of curriculum procedures than schools identified as nonformalized.

Table 1

A Comparison of Matched Groups of Schools' Mean Scores for Selected Variables Related to Curriculum

Variable(s)	$\bar{X}$ Scores Formalized Schools	$\bar{X}$ Scores Less Formalized Schools	T-Tests	Significance Level
Awareness	3.09	2.91	3.18	.00
Participation	3.55	3.23	5.22	.00
Teacher Autonomy	4.27	4.13	3.26	.00
Satisfaction with Curriculum	3.32	2.99	6.53	.00
Communication	2.91	2.71	2.67	.01
Clarity of Curriculum Procedures	3.00	2.74	3.65	.00
	N=273		N=281	

Standardization. Standardization was defined as the emphasis placed within an organization on following specific rules and procedures in performing a job. The standardization variable was constructed from the following questions.

1. There are many guidelines and rules concerning curriculum in my school.
2. Curriculum problems are dealt with through established procedures in my school.
3. There are few procedures teachers in my school must follow when dealing with curriculum.

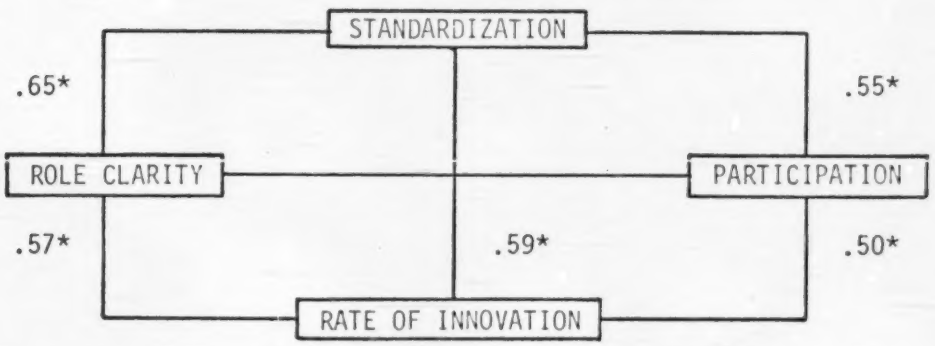
Each of these questions was answered on a five-point scale ranging from "strongly disagree" to "straongly agree". The hypothesis tested was:

> The standardization of curriculum procedures will decrease role ambiguity and lead to higher rates of curriculum innovation.

The hypothesis was supported by the findings of this study. As indicated in Figure 2, standardization is strongly related (.65*) to role clarity and participation (.55*). The standardization of curriculum procedures is also significantly related to the rate of innovation in schools (.59*).

Figure 2

Correlations between Standardization, Role Clarity, Participation in Curriculum, and Rate of Innovation (N=30)



*Significant at .01 level

Multiple regressions were run on the variables found in Figure 2. After role clarity and participation were partialed out, the residual correlation between standardization and rate of innovation was .27. Therefore, without the influence of role clarity and participation, the relationship between standardization and rate of innovation in schools is not significant.

Influence of Groups in Curriculum Decision-Making. The relationship between the actual and the ideal influence of groups in curriculum decision-making was based on responses to the following questions:

1. How much influence do the following groups actually have in determining curriculum in your school?
   a. Central Office Administrators
   b. Building Administrators (principals)
   c. Teachers
   d. Students
   e. Community
   f. Board of Education
2. How much influence should the following groups have in determining the curriculum in your school?
   a. Central Office Administrators
   b. Building Administrators (principals)
   c. Teachers
   d. Students
   e. Community
   f. Board of Education

Each of these questions was answered on a five-point scale ranging from "very little influence" to "a great deal of influence". T-tests were then run on the means of the two groups of schools (formalized-less formalized).

While Figure 3 indicates that there were no significant differences between the responses of formalized and less formalized groups of schools to the two questions, there were, however, significant differences in the variance between the responses to the actual and ideal influence desired.

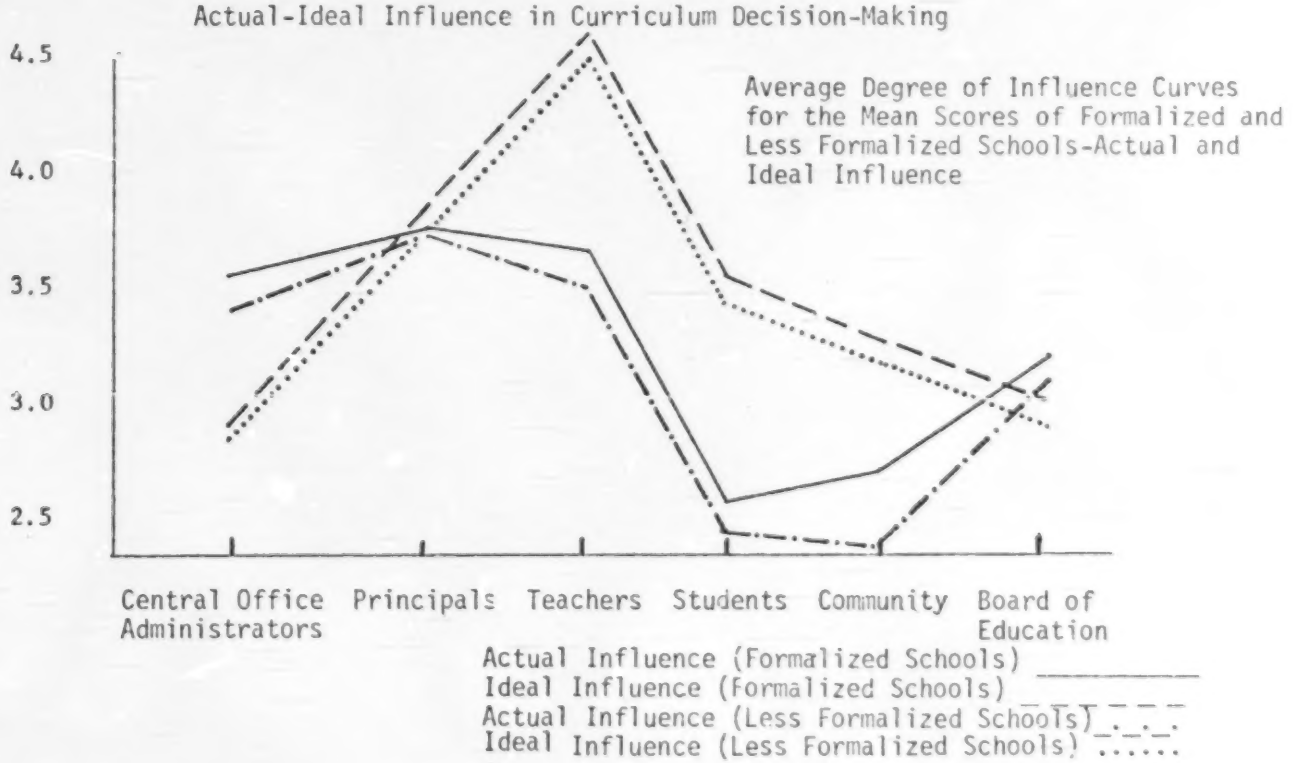
According to the data, respondents favored increasing the influence of teachers, students and the community. The differences in the mean scores for these three groups was significant at the .01 level for both formalized

and less formalized schools. It might also be noted that respondents indicated they would like both central office administrators and boards of education to have less influence in curriculum decision-making. It is also interesting to note that principal's influence was relatively constant between actual and ideal influence and with both groups of schools.

A closer look at Figure 3 suggests that the "fixed pie" assumption of control is questionable. This assumption argues that the amount of control exercised by members of a group or an organization is a fixed quantity; thus, increasing the influence of the superintendent in a school system would lead to a decrease in the influence of teachers or other groups. The data suggests, however, that Tannebaum and Cooke's (1974) 'expanded pie" theory may be valid, that control is expandable in organizations and that organizations with an "expanded pie" mode of control are more likely to be more productive than organizations operating under a "fixed pie" mode.

Figure 3

Actual-Ideal Influence in Curriculum Decision-Making



While there was not a significant difference between the responses of formalized and less formalized groups of schools, the mean scores for all groups (excepting principals) were higher in formalized schools. Thusly, in formalized schools all participating groups in curriculum decision-making had greater degrees of influence. It should also be noted that principals had the highest reported amount of influence. This might explain why their degree of influence did not vary between formalized and less formalized schools. The group of formalized schools also reported significantly higher rates of innovation and success of innovations implemented ($p.<01$).

Administrator and Teacher Perceptions. A long held assumption in many public school settings is that administrators and teachers often assume adversary roles in problem-solving, curriculum development being no exception. A number of items on the survey questionnaire dealt with investigating participants' attitudes about curriculum and the roles that they played in the curriculum process. The following question was posed in this study:

> Do administrators' and teachers' perceptions of each others' roles and of general curriculum concerns in schools differ significantly?

Table 2 is a summary of the mean scores of administrators'and teachers' responses to some of these items. The data indicates that there is little significant difference between these groups' perceptions of factors affecting curriculum. There is a significant difference with only two variables: awareness of innovations and administrators' willingness to change. With both variables, the administrators' mean scores were significantly higher than teachers ($p.<01$).

Table 2

A Comparison of the Mean Scores of Administrators' and Teachers' Responses to Questionnaire Items on General Curriculum Concerns

Variables	Administrators' Mean Score N=30	Teachers' Mean Score N=525	T-Test(s)	Significance Level
Satisfaction with Curriculum	3.20	3.19	.16	.98
Awareness of Innovations	3.47	3.10	2.89	.00*
Teachers' Willingness to Change	3.27	3.32	-.32	.74
Administrators Willingness to Change	3.87	3.23	3.81	.00*
Faculty Meetings Used for Curriculum Matters	2.53	2.34	.97	.33
Teacher/Principal Communicate about Curriculum	3.22	3.18	.32	.75
Expertise for Curriculum	3.33	2.97	1.83	.07

*Significant at the .01 level

Awareness of Innovations

The awareness of innovations variable was constructed from the following questions:

1. To what extent are administrators aware of new innovations developing in curriculum?
2. To what extent are teachers aware of innovations and changes occurring in curriculum?

Each of these questions was answered on a five-point scale, ranging from "a very little extent" to "a very great extent".

The administrators' mean score (3.47) was significantly higher than the teachers' mean score (3.10). This suggests perhaps that administrators, because of their position in the organization, have access to information

not available to teachers concerning innovations outside of the local school district. It might also suggest that information concerning curriculum change doesn't always filter down through communication channels in many school systems.

Willingness to Change

The measure of administrators' willingness to change was based on the following question:

> To what extent are administrators willing to try new curriculum innovations in your school?

Again, the administrators' mean score (3.87) was significantly higher than the teachers' mean score (3.23). This data indicates that teachers view administrators as somewhat resistant to change. Interestingly enough, administrators rated themselves higher on this question than on any other. It might be assumed that they find an openness to change as an important criteria for their positions in their schools.

Conclusions and Implications

The following conclusions are warranted from the findings of the study:

1. The formalization of curriculum guidelines apparently leads to greater role clarity (.69*) and participation (.54*) in curriculum. This, in turn, leads to increased rates of innovation (.51*).

2. The standardization of curriculum procedures leads to greater role clarity (.65*) and participation (.55*) in curriculum. This, in turn, leads to increased rates of innovation (.59*).

3. A substantial relationship exists between formalization and standardization (.80*).

*Significant at .01 level

4. Respondents reported desiring a greater role for teachers, students, and the community in curriculum decision-making. They felt, however, that the influence of superintendents and boards of education should be reduced. There was no significant difference reported between the actual and ideal influence of principals. While there was not a statistically significant difference between the responses of formalized and nonformalized groups of schools, the mean scores for all groups (excepting principals) were higher in formalized schools.

5. Administrators'and teachers' perceptions of curriculum matters do not differ significantly with the exception of administrators' willingness to change and the awareness of innovations.

Implications. Several implications might be drawn from the results of this study.

1. Hage and Aiken (1971) have hypothesized that formalization and standardization are inversely related to innovation. Zaltman et.al (1973) have suggested that formalization inhibits innovation at the initiation stage and increases innovation at the implementation stage. This study, however, found positive correlations between formalization and rates of innovation (.51*) and standardization and rates of innovation (.59*). It also found a strong correlation between formalization and success of innovations (.55*).

2. Several researchers (Hage and Aiken, 1971; Corwin, 1975) have found a strong relationship between standardization and innovation; they have also found a relationship between standardization and a decrease in role ambiguity. This study further supports their findings to educational

---

*Significant at .01 level

settings. The data suggests a substantial correlation between standardization and role clarity (.65)* and standardization and rates of innovation (.59)*.

The data also revealed that teachers in formalized schools reported having more influence over curriculum decision-making than teachers in less formalized schools. This indirectly supports Boyan's (1969) findings that teachers in highly structured schools report a greater sense of power than teachers in less structured schools.

3. The substantial relationship that was reported between formalization and standardization (.80*) has several possible implications. It might suggest that the vast majority of schools that formalize their curriculum guidelines also standardize their curriculum procedures or it might also suggest that formalization and standardization are one in the same variable as Pugh and Hickson (1968) have hypothesized. Several schools involved in this study had differing structures for initiating and implementing curriculum innovations. Although the rules and policies of the schools were clearly defined (formalization), a degree of latitude was provided for participants to assume different roles in the initiation stage of curriculum development. This suggests a clear differentiation between formalization and standardization. Further research is needed in this area. A more detailed study involving a careful delineation between formalization and standardization would be helpful.

4. The data indicated participants favored an increase in the influence of teachers, students, and community in curriculum decision-making and a decrease in the influence of superintendents and boards of education. The data also indicated that principals have the greatest amount of influence in both formalized and less formalized schools. This disputes recent

---

*Significant at .01 level

studies which suggest that the influence of principals in schools is declining. The greater amount of influence indicated by all groups in formalized schools has implications for further study. Will the influence of these groups also extend to other areas in school organization and how is this expanded influence related to the productivity and success of schools.

5. The data suggests little significant difference between administrators' and teachers' perceptions of factors concerning curriculum. This has obvious implications for changing the adversary roles presently assumed by many participants in the curriculum decision-making process in public schools. These adversary positions have developed along with the maturation of teacher unionism. A new approach to problem-solving might be suggested. Participants might begin by identifying those attitudes and perceptions they hold in common with one another as a way of establishing a positive basis for problem-solving.

BIBLIOGRAPHY

Azumi, Koya and Jerald Hage. Organizational Systems: A Text Reader in the Sociology of Organizations. Lexington, Massachusetts: D.C. Heath and Company, 1972.

Baldridge, James and Terrence Deal. "Managing Change in Educational Organizations," Review of Educational Research, 1974, p.113.

Becker, James M. "The Climate for Change: Factors that Foster Adaptability within the School," North Central Association Quarterly,Vol. 48, No. 2 Fall, 1973, pp. 281-286.

Becker, Selwyn and Thomas L. Whisler. "The Innovative Organization: A Selective View of Current Theory and Research," The Journal of Business, 40, No.4, 1967, pp. 462-469.

Bennis, Warren G., Kenneth D. Benne and Robert Chin. The Planning of Change. New York: Holt, Rinehart and Winston, Inc., 1969.

Boyan, Norman J. "The Emergent Role of the Teacher in the Authority Structure of the School," in Organizations and Human Behavior, Fred D. Carver and Thomas J. Sergiovanni, eds. New York: McGraw-Hill Company, 1969, pp.200 211.

Burns, Robert W. and Gary D. Brooks, eds. Curriculum Design in a Changing Society. Englewood Cliffs, New Jersey: Educational Technology Publications, 1970.

Corwin, Ronald G. "Innovations in Organizations: The Case of Schools," Sociology in Education, Vol. 48, No. 1, Winter, 1975, pp. 1-37.

Hage, Jerald. "An Axiomatic Theory of Organizations," Administrative Science Quarterly, Vol. 10, No. 3, Dec.1965, pp. 290-320.

Hage, Jerald and Michael Aiken. Social Change in Complex Organizations. New York: Random House, 1970.

Havelock, Ronald G. Planning for Innovation. Ann Arbor, Michigan: Center for Research on Utilization of Scientific Knowledge, University of Michigan, 1970.

Helfiker, Leo R. "Factors Related to Innovation of School Systems," Journal of Educational Research, Vol. 64, Sept. 1970, pp. 23-27.

Huse, Edgar F. Organization Development and Change. Boston, Mass.: West Publishing Company, 1975.

Kahn, Robert L., Donald M. Wolfe, Robert P. Quinn and J. Diedrick Snoek. Organizational Stress: Studies in Role Conflict and Ambiguity. New York: John Wiley and Sons, Inc., 1964.

Katz, Daniel and Robert L. Kahn. The Social Psychology of Organizations. New York: John Wiley and Sons, Inc., 1964.

Lawrence, Paul R. and Jay W. Lorsch. Organization and Environment: Managing Differentiation and Integration. Boston, Mass.: Harvard University Press, 1967.

Mohr, Lawrence. "Determinants of Innovation in Organizations, American Political Science Review, 63: 1969, pp. 111-126.

Pugh, D.S., D.J. Hickson, D.R. Hinings and C. Turner. "Dimensions of Organizational Structure," Administrative Science Quarterly, 13, No.1, 1968, pp. 65-106.

Sheperd, Herbert A. "Innovation-Resisting and Innovation Producing Organizations," Journal of Business, 40, No.4, 1967, pp. 470-477.

Zaltman, Gerald. Social Phenomena of Change. New York: John Wiley and Sons, Inc., 1974.

Zaltman, Gerald, Robert Duncan and Jonny Holbek. Innovations and Organizations. New York: John Wiley and Sons, Inc., 1973